UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,953	11/28/2005	Eli Arad	P-7008-US	3425

56639 7590 05/14/2008
EMPK & Shiloh, LLP
116 JOHN ST,
SUITE 1201
NEW YORK, NY 10038

EXAMINER	
HOBAN, MATTHEW E	

ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
05/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/501,953	ARAD ET AL.	
	Examiner	Art Unit	
	Matthew E. Hoban	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8,10 and 11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8,10 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Stookey in 2,651,145 in view of Moffatt in RE37,920.

Stookey teaches a photochromic glass composition based on silica, alumina, zinc, and sodium oxides where specific attention is given to Batch 2 of Stookey, which has a molar composition delineated in lines 70-75 of Column 4. The glass contains in moles 69.1% SiO_2, 16.5% Na_2O, 6.6% Al_2O_3, \4.8% B_2O_3, .002% AgCl, .02% CeO_2, .1% Sb_2O_3, 2.6% F, and .2% Br. It is noted that the claim language includes the language "consisting essentially of", but there has been nothing made of record that indicates that AgCl, Br, or CeO_2 materially affect the composition. Furthermore, the glass of Stookey goes through an opacification process, by which NaF crystallites are formed in the glass, meaning that the molar amount of NaF is greater than 0% after the treatment of the glass is complete (See Column 3, Lines 60-70). The composition contains no K or Li, so in essence this glass is a "single exchangeable alkali ion glass" since it contains only a single alkali ion. It is noted that the amount of silica in Batch 2 of Stokey contains 69.1 mol%, however 69.1 mol% falls into the range of "*about* 69 mol%" as claimed. Stookey is silent as to the refractive index of his glass composition; however, the composition is the same as that which is instantly claimed, so the refractive index of Stookey's glass would inherently be the same.

Stookey uses Antimony oxide as a fining agent in his composition and does not teach the use of an arsenic fining agent.

However, arsenic and antimony oxides are both common fining agents in the art and the replacement and choice of one over the other is generally known by those of ordinary skill in the art. It is noted in RE37,920 that one of these two oxides can be added in customary amounts to perform fining. The residual amounts of these oxides in the final product has no substantial effects on the properties of the glass. Therefore, these oxides both perform the same function and are substitutable for one another. Based on this fact the addition of .08-.11 mol% antimony in place of the fining agents of Stookey would be obvious to one of ordinary skill.

5. Claims 6, 8, 10-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Stookey in 2,651,145 in view of Moffatt in RE37,920 as applied to claims 1-5 above, and further in view of Bartholomew in 4,160,654.

Stookey in view of Moffatt teaches a photochromic glass composition based on silica, alumina, zinc, and sodium oxides where specific attention is given to Batch 2 of Stookey, which has a molar composition delineated in lines 70-75 of Column 4. The glass contains in moles 69.1% SiO_2, 16.5% Na_2O, 6.6% Al_2O_3, \4.8% B_2O_3, .002% AgCl, .02% CeO_2, .1% Sb_2O_3, 2.6% F, and .2% Br. It is noted that the claim language includes the language "consisting essentially of", but there has been nothing made of record that indicates that AgCl, Br, or CeO_2 materially affect the composition. Furthermore, the glass of Stookey goes

through an opacification process, by which NaF crystallites are formed in the glass, meaning that the molar amount of NaF is greater than 0% after the treatment of the glass is complete (See Column 3, Lines 60-70). It is noted that the amount of silica in Batch 2 of Stokey contains 69.1 mol%, however 69.1 mol% falls into the range of "*about* 69 mol%" as claimed. Stookey is silent as to the refractive index of his glass composition; however, the composition is the same as that which is instantly claimed, so the refractive index of Stookey's glass would inherently be the same. Stookey teaches an antimony fining agent, but based on Moffatt, it would have been obvious to replace this fining agent with an arsenic one. This is due to the fact that these two fining agents perform the same function and one of ordinary skill in the art would realize that they are interchangeable without materially affecting the composition.

Stookey in view of Moffatt includes silver in the melt, and does not teach an ion exchange process post solidification to include silver.

However, it would have been obvious to include the silver in Stookey's composition in a post-processing step. Bartholomew teaches a photochomic glass of similar composition to Stokey, where silver is ion exchanged for alkali metals. Bartholomew states that this ion exchange occurs in a Na2O-SiO2 glass and photochomatic effects can be attained when a halide is present (See Abstract). Stookey's glass maintains all of these requirements. Therefore, it

would have been obvious to include silver in the composition by a different known means. By including silver in the composition rather than through the melt, the distribution of silver in the composition would be much more homogenous. Furthermore, by varying the concentration of the ion exchange solution it is possible to create glass with a wide spectrum of colors. Furthermore, both transparent and opaque glasses can be maintained through this method. One of ordinary skill would be motivated to include silver through the ion exchange of Bartholomew rather than through the melt as in Stookey in order to gain greater control of the visible properties of the final treated glass. Such control would be nearly impossible by including silver in the melt. Furthermore the process of Bartholomew states that by irradiating the samples with different types of light in various areas the color and optical properties of the samples change. This process was done in glass ribbons, which are optical articles and where the articles were irradiated would offer a change in refractive (See Column 5, Line 60-Column 8, Line 25). Lastly, although Stookey is silent as to the change in refractive index due to a silver ion exchange process, this change would be inherent. The glass of Stookey in view of Moffatt and further in view of Bartholomew is the same composition as the instantly claimed glass and goes through the same process as the instant claims so it therefore must have the same properties inherently. Finally, both references make substantially the same photochromic glass and are thus highly combinable.

Response to Arguments

6. Applicant's arguments with respect to claims 1-6 and 8, 10-11 have been considered but are moot in view of the new ground(s) of rejection. The glasses of Stookey in view of Moffatt fall within the range of composition as recited by the instant claims. As was stated previously, it is noted that the instant claims include "consisting essentially of" language, but nothing has been made of record to show that additional elements would materially affect the composition.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Hoban whose telephone number is (571)

270-3585. The examiner can normally be reached on Monday - Friday from 7:30 AM to 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry A Lorengo/
Supervisory Patent Examiner, Art Unit 1793

MEH